

REMARKS

Applicants respectfully request reconsideration of this application as amended. Claims 1, 14 and 20-25 have been amended. Claims 9-13, 17-19 and 27-30 have been cancelled without prejudice. New claims 31-33 have been added. Therefore, claims 1-8, 14-16, 20-26 and 31-33 are presented for examination.

Objection to the Specification

The Specification is objected to because a "Brief Summary of the Invention" is missing.

Applicants respectfully submit that a Brief Summary of the Invention is NOT required. Applicants direct the Examiner's attention to the following:

A brief summary of the invention indicating its nature and substance, which may include a statement of the object of the invention, should precede the detailed description. Such summary should, **when set forth**, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed.
MPEP 608.01(d); 37 CFR 1.73 (emphasis added)

Hence, the Examiner's objection is improper and invalid. Accordingly, Applicants respectfully request the Examiner to withdraw the Objection to the Specification.

35 U.S.C. § 101 Rejection

Claims 1-30 are rejected under 35 U.S.C. § 101 because the invention is directed to non-statutory subject matter.

Applicants respectfully disagree with the Examiner regarding the 35 USC §101 rejection. First, the Specification does provide a “practical real-world” use of the application. For example, the Specification states that one of the uses of the embodiments of the present invention relates to garbage collection and includes “saving the system from unnecessarily generating the allocation bits and wasting valuable resources that can be used for other purposes”. (Para. 0018) Similarly, the Background section also states some of the problems with prior arts of which, one includes memory waste particularly as it relates to garbage collection. (See Para. 002-006)

Claim 1, as amended, also recites “the mark bit and the allocation bit relating to garbage collection occurring at a virtual machine . . . integrating the mark bit and the allocation bit into a single mark/allocation bit at the single space to free other spaces for other system functions”. (emphasis added) These features also indicate “practical real-world” uses.

Claims 14 and 20 include limitations similar to those of claims 1. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 1, 14 and 20 and their dependent claims.

Applicants disagree with the Examiner’s rejection with regard to the preambles of claims 1, 14 and 20. The preambles are completely valid and proper and do NOT violate any of the requirement of MPEP 608.01 (to which the Examiner refers) or 37 CFR 1.75. The Examiner’s rejection of the preambles is improper and invalid. Applicants respectfully request the withdrawal of the rejection of preamble.

Claims 17 and 27 and their dependent claims have been cancelled without prejudice.

35 U.S.C. § 102 Rejection

Claims 1-6, and 14-25 are rejected under 35 U.S.C. §102(b) as being anticipated by Kuiper, et al., U.S. Patent No. 6,324,631 (“Kuiper”).

Claim 1, as amended, in pertinent part, recites:

A method comprising:

allocating a single space to accommodate a mark bit and an allocation bit, the mark bit and the allocation bit relating to garbage collection occurring at a virtual machine;

integrating the mark bit and the allocation bit into a single mark/allocation bit at the single space to free other spaces for other system functions; and

corresponding the mark/allocation bit with an object in a heap, wherein the mark/allocation bit occupies the single space, the mark/allocation bit to perform dual functions of the mark bit and the allocation bit by alternating between the mark bit and the allocation bit via the single space.

(emphasis added)

As an initial matter, Applicants direct the Examiner’s attention to a discrepancy as the Examiner indicates the §102 rejection is made in light of “Raymond”, while the detailed rejections are made in light of “Kuiper”. Since the detailed rejections were made in light of Kuiper, Applicants address those rejections here in the response.

Applicants respectfully disagree with the Examiner’s characterization of the reference. For example, Kuiper does not teach or reasonably “allocating a space to accommodate a mark bit and an allocation bit” as recited by former claim 1. However, Applicants propose amendments to claim 1 to further clarify the feature as “allocating a single space to accommodate a mark bit and an allocation bit”. (emphasis added) Kuiper does not teach or reasonably suggest such a feature. Furthermore, Kuiper does not teach or suggest “integrating the mark bit and the allocation bit into a single mark/allocation bit at the single space to free other spaces for other system functions . . . mark/allocation bit to perform dual functions of the mark bit and the allocation bit by alternating between the mark bit and the allocation bit via the single space” as recited by claim 1. Accordingly,

Applicants respectfully request the withdrawal of the rejection of claim 1 and its dependent claims.

Claims 14 and 20 contain limitations similar to those of claim 1. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 14 and 20 and their dependent claims.

Claims 9-11, and 27-29 are rejected under 35 U.S.C. §102(b) as being anticipated by Kolodner, et al., U.S. Patent Publication No. 2002/0055941 ("Kolodner").

Claims 9-11 and 27-29 have been cancelled without prejudice.

35 U.S.C. § 103 Rejection

Claims 7-8 and 26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kuiper as applied to claims 1 and 20 above and further in view of Otis, et al., U.S. Patent No. 6,567,905 ("Otis").

Claims 7-8 and 26 depend from claim 1 or claim 20 and thus include all the limitations of their base claim. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 7-8 and 26 and their dependent claims.

Conclusion

In light of the foregoing, reconsideration and allowance of the claims is hereby earnestly requested.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Request for an Extension of Time

Applicant respectfully petitions for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension.

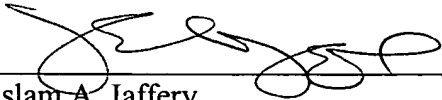
Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Aslam A. Jaffery
Reg. No. 51,841

12400 Wilshire Boulevard
7th Floor
Los Angeles, California 90025-1030
(303) 740-1980